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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,471	11/27/2001	Judson Lee	MR1115-369	7133

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EXAMINER

SANTOS, PATRICK J D

ART UNIT	PAPER NUMBER
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2171

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DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/993,471

Applicant(s)

LEE ET AL.

Examiner

Patrick J Santos

Art Unit

2171

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 1-8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 1-8 are objected to because of the following informalities: there appear to be missing commas e.g. "dyeing process design criteria and algorithm" rather than "dyeing process design criteria, and algorithm" (Claim 1: ln. 11); "dyeing processes and costs" rather than "dyeing processes, and costs" (Claim 3: ln. 21); "salt volume algorithm and alkali volume algorithm" rather than "salt volume algorithm, and alkali volume algorithm" (Claim 7: ln. 9). Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,658,370 issued to Erman et al. (hereafter Erman '370), in view of U.S. Patent No. 4,629,470 issued to Harper (hereafter Harper '470).

Claim 1:

Regarding Claim 1, Erman '370 discloses an expert system (Erman '370: Abstract) comprising:

- a user interface used for users to input data and display the computing results of the expert system (Erman '370: col. 6, lns. 9-24);
- a database used to store feature parameters (Erman '370: col. 63, lns. 41-56);
- a knowledge library containing parameter groups, process design criteria and algorithm (Erman '370: col. 63, lns. 41-56); and
- an inference engine containing a query serial and a computing procedure used to bind data input by users with the database and the knowledge library for operation (Erman '370: col. 63, ln. 57 to col. 64, ln. 43).

However, Erman '370 teaches a generic expert system that is applicable to an arbitrary knowledge base and does not explicitly disclose applying said expert system to a cotton dyeing knowledge base and does not explicitly disclose specific knowledge of cotton fabric reactive dyeing processes.

Harper '470 discloses knowledge of cotton fabric reactive dyeing processes. However, Harper '470 does not explicitly disclose applying an expert system to a cotton dyeing knowledge base (Harper '470: col. 4, lns. 1-29).

It would have been obvious to a person having ordinary skill in the art to apply the cotton fabric reactive dyeing process knowledge of Harper '470 to the expert system of Erman '370. The motivation to accomplish said application is suggested by Erman '370 which discloses that expert systems are applicable to "problems that require diagnosis, recommendation, selection, or classification" such as the knowledge domain of Harper '470 (Erman '370: col. 1, lns. 11-16), and further discloses that such systems have the advantage of achieving "performance matching or exceeding the ability of a human expert" (Erman '370: col. 1, lns. 18-24).

Claim 2:

Regarding Claim 2, Erman '370, Harper '470, and Jackson '99 in combination disclose all the limitations of Claim 1 (supra). Further note that the dyeing knowledge of the Erman '370, Harper '470, and Jackson '99 combination reads on K/S and absorbency of the reactive dye (Harper '470: col. 4, lns. 1-29).

Claim 8:

Regarding Claim 8, Erman '370, Harper '470, and Jackson '99 in combination disclose all the limitations of Claim 1 (supra). Further note that the expert system of the Erman '370, Harper '470, and Jackson '99 combination reads on a query serial and a computing procedure as logical inference approaches; the expert system will compare the parameters in the database with the data input and queries requested by the users automatically, and display the results based on the computing criteria in the knowledge library on the user interface (Erman '370: col. 63, ln. 57 to col. 64, ln. 43).

4. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erman '370, and Harper '470, in view of U.S. Patent No. 5,002,683 to Behler et al. (hereafter Behler '683).

Claims 3 and 7:

Regarding Claims 3 and 7, Erman '370 and Harper '470 in combination disclose all the limitations of Claim 1 (supra). However, Erman '370 and Harper '470 in combination do not explicitly disclose knowledge of dyeing cotton fabrics including compatibility indices, recommended salt volume, recommended alkali volume, dyeing processes and costs and do not

explicitly disclose knowledge of including the compatibility index algorithm, salt volume algorithm, and alkali volume algorithm.

Behler '683 discloses knowledge of dyeing cotton fabrics including compatibility indices, recommended salt volume, recommended alkali volume, dyeing processes and costs and discloses knowledge including the compatibility index algorithm, salt volume algorithm, and alkali volume algorithm (Behler '683: col. 3, ln. 38 to col. 4, ln. 18; Table 3).

It would have been obvious to a person having ordinary skill in the art to combine the dyeing process knowledge of Behler '683 to the Erman '370 and Harper '470 combination. Since, the knowledge domain of Behler '683 involves solving "problems that require diagnosis, recommendation, selection, or classification" (Erman '370: col. 1, lns. 11-16), Claims 3 and 7 are rejected on the same basis as Claim 1 (supra).

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Erman '370, and Harper '470, in view of U.S. Patent No. 5,984,978 issued to Klier et al. (hereafter Klier '978).

Claim 4:

Regarding Claim 4, Erman '370 and Harper '470 in combination disclose all the limitations of Claim 1 (supra). However, Erman '370 and Harper '470 do not explicitly disclose knowledge including first exhaustion, final exhaustion, reactivity, fixation, and T_{50} (i.e. time of half fixation)

Klier '978 discloses knowledge including first exhaustion, final exhaustion, reactivity, fixation, and T_{50} (i.e. time of half fixation) (Klier '978: col. 3, ln. 61 to col. 4, ln. 8; col. 4, lns. 22-29; col. 5, lns. 28-34).

It would have been obvious to a person having ordinary skill in the art to combine the dyeing process knowledge of Klier '978 to the Erman '370 and Harper '470 combination. Since, the knowledge domain of Klier '978 involves solving "problems that require diagnosis, recommendation, selection, or classification" (Erman '370: col. 1, lns. 11-16), Claim 4 is rejected on the same basis as Claim 1 (supra).

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Erman '370, and Harper '470, in view of U.S. Patent No. 5,167,668 issued to Hahnke et al. (hereafter Hahnke '668).

Claim 5:

Regarding Claim 5, Erman '370 and Harper '470 in combination disclose all the limitations of Claim 1 (supra). However, Erman '370 and Harper '470 do not explicitly disclose knowledge including cotton fabrics specification, operation parameters of dyeing machines, dyeing liquor ratio and dye recipe.

Hahnke '668 discloses knowledge including cotton fabrics specification, operation parameters of dyeing machines, dyeing liquor ratio and dye recipe (Hahnke '668: col. 6, lns. 2-45; col. 5, lns. 39-45; col. 1, lns. 27-41).

It would have been obvious to a person having ordinary skill in the art to combine the dyeing process knowledge of Hahnke '668 to the Erman '370 and Harper '470 combination. Since, the knowledge domain of Hahnke '668 involves solving "problems that require diagnosis, recommendation, selection, or classification" (Erman '370: col. 1, lns. 11-16), Claim 5 is rejected on the same basis as Claim 1 (supra).

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Erman '370, and Harper '470, in view of U.S. Patent No. 4,931,065 issued to Baumgarte et al. (hereafter Baumgarte '065).

Claim 6:

Regarding Claim 6, Erman '370 and Harper '470 in combination disclose all the limitations of Claim 1 (supra). However, Erman '370 and Harper '470 do not explicitly disclose knowledge including dyeing criteria for 60°C reactive dyes and the dyeing criteria for 80°C reactive dyes.

Baumgarte '065 discloses knowledge including dyeing criteria for 60°C reactive dyes and the dyeing criteria for 80°C reactive dyes (Baumgarte '065: col. 1, lns. 54-65).

It would have been obvious to a person having ordinary skill in the art to combine the dyeing process knowledge of Baumgarte '065 to the Erman '370 and Harper '470 combination. Since, the knowledge domain of Baumgarte '065 involves solving "problems that require diagnosis, recommendation, selection, or classification" (Erman '370: col. 1, lns. 11-16), Claim 6 is rejected on the same basis as Claim 1 (supra).

Conclusion

8 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- U.S. Patent No. 5,065,338 issued to Phillips et al. "." Reference discloses a step-by-step decision making system. Of particular interest is the linkage to external databases.

- Jackson, Peter, "Introduction to Expert Systems", 1999, 3rd edition, Addison-Wesley (TM). General reference on expert systems.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J Santos whose telephone number is 703-305-0707. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick J.D. Santos
March 19, 2004


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